REMARKS

Claim 67 has been amended. Claims 83-85 have been canceled. No new claims have been added. Claims 68-82, 86-89, 92-98 are pending.

The drawings stand objected to. The Office Action states that the "signal source having first and second outputs coupled to the first and second transmission members" must be shown or the feature(s) canceled from the claims(s). Claim 67 has been amended to recite "a first and second signal sources respectively having first and second signal outputs respectively coupled to said first and second transmission members." This feature is supported by the specification. See, e.g., Fig. 8 (illustrating a signal receiver comprising amplifier A1 configured to receive a first signal on a first transmission line 152A and amplifier A2 coupled to configured to receive a second signal on a second transmission line 152B)

Claims 67-89 and 92-98 stand rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the enablement requirement. The Office Action states that the claims contain subject matter not described in the disclosure. More specifically, the Office Action states that the limitation "signal source having first and second outputs coupled to the first and second transmission member" is not supported by the disclosure. Claim 67 has been amended to address this issue. Additionally, this rejection is traversed with respect to claims 92-98, which do not recite the subject matter quoted in the Office Action. Accordingly, the rejection to claims 67-89 and 92-98 should be withdrawn.

Claims 67-77, 79-82, 88-89, 92-94, and 97-98 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura (U.S. Patent No. 5,013,942) in view of Doblar (U.S. Patent No. 6,477,205). Claims 86 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura in view of Applicant's admitted prior art (APA).

Claim 78 and 87 stands rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (APA) in view of Nishimura. These rejections are respectfully traversed.

Claims 67 and 87 recite, *inter alia,* "a termination circuit connected to at least one of said first transmission member and said second transmission member" and "an impedance adjusting component coupled to said second transmission member and adapted to affect, by said coupling thereto, a signal propagation factor of said second transmission member, whereby a relationship may be established between respective transmission times through said first and second transmission members of first and second signals received at said first and second transmission members from said respective first and second signal source outputs."

Claim 88 recites, *inter alia,* "whereby a relationship may be established between respective transmission times through said first and second transmission members of first and second signals received at said first and second transmission members from said respective first and second signal source outputs by changing said second impedance; and a termination circuit connected to at least one of said first transmission member and said second transmission member for terminating at least one of said first transmission member and said second transmission member."

Claim 92 recites, *inter alia,* "receiving a first signal transition ... having a first signal propagation factor and a first geometric length, said first signal propagation factor related to a first characteristic impedance of said first transmission member; receiving a second signal transition ... said second transmission member having a second signal propagation factor and a second geometric length, said second signal propagation factor related to a second characteristic impedance of said second transition member, said second geometric length different from said first genetic length;

terminating said first characteristic impedance of said first transmission member and said second characteristic impedance of said second transmission member; and receiving said first and second signal transitions at said first and second transmission members synchronously."

Nishimura discloses a clock supply circuit which has a capacitance adjustment feature. The capacitance feature is used to change the RC delay constant of different lines. The Office Action alleges that the embodiment shown by Fig. 5 of Nishimura discloses every feature except for the termination circuit.

Doblar discloses a digital communication system. In particular, Doblar at Fig. 8 illustrates an exemplary communication system in which clock lines are terminated by termination circuits (e.g., TC 108) in order to minimize signal reflection. See column 13, lines 29-31 (describing Fig. 8); column 14, lines 28-29 (describing terminator circuit 108); and Abstract (describing termination).

The Office Action asserts that there are only minor differences between the subject matter recited in the claims and Nishimura's disclosure, and cites to various secondary references. For example, with respect to independent claims 67, 88, and 92, the Office Action states the Nishimura only fails to disclose a termination circuit, which is disclosed by Doblar. For independent claim 87, the Office Action cites to APA (admitted prior art). It is respectfully asserted that the Office Action is fundamentally in error with respect to its analysis of Nishimura.

The present invention is directed to minimizing clock skews by changing the apparent length of transmission lines. More specifically, according to the invention, the signal propagation times over a first medium and a second medium can be set to a specific signal propagation time relationship (for example, equal propagation time)

even if the first and second mediums are, for example, transmissions lines of different lengths. If the clock signals are propagated along the transmissions lines, clock skew can be minimized. The signal propagation times are adjusted by adding, for example, capacitive elements to the transmission line to change the propagation constant and delay time of the line, and then adding appropriate termination to the line to compensate for the added capacitive elements.

This is a fundamental characteristic of the invention which is not recognized by Nishimura. The portion of Nishimura relied upon by the Office Action is Fig. 5, which is described by the below quoted portion:

> FIG. 5 shows a third embodiment of a clock supply circuit according to the present invention. In this embodiment, ... input line lengths from a point 5A on the output side of a first buffer 10 to each of points 5C, 5D, ... , 5F, and 5G which are, respectively, input points of buffers 11_{-1}, 11_{-2}, ... , $11_{-(N-1)}$, and 11_{-N} in a first phase are different from one another. In order to minimize clock skew caused by the differences of the line lengths, there are provided adjustment capacitances C_{12}, C_{13}, ... , and C_{1N} for prevention of clock skew caused by the RC delay of the input lines having different lengths on the basis of a specific buffer having a longest input line, for example, the buffer 11_{-1} in this drawing. In this case, each value of the respective adjustment capacitances can be determined in accordance with the respective shortages of capacitance in the input lines.
>
> Nishimura at column 4, lines 31-45.

That is, Nishimura discloses compensating for differences in RC delays caused by transmission lines having different lengths by adding a compensating capacitance to the transmission lines. However, as noted on page 8 of the disclosure:

> The addition of capacitive and/or inductive elements 42, as described with reference to Figs 4 and 5, is not the same technique

> as adding capacitance to RC dominated lines to change the time constant of the RC circuit. As shown in Fig. 6B, adding capacitance to a RC dominated line reduces the rise time or response time and further degrades the signal quality.
>
> However, when the capacitive and/or inductive elements are added in accordance with the invention the propagation constant and delay time in propagation of the signal down the line are changed. Changing the delay time in this manner and also providing matched termination on the line function to preserve the shape and quality of the signal and only delays the signal in the time domain as shown in Fig. 6A. The delay time along lines of different lengths is thereby made to match and clock skews are eliminated or at least minimized...
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> Specification at page 8, line 15 – page 9, line 4.

Nishimura therefore is entire differently in its principle of operation from the claimed invention.

Nishimura, Doblar, and the APA are each entirely different from subject matter defined in the independent claims. For example, no combination of Nishimura, Doblar, and the APA, disclose or suggest setting one or more signal propagation factors of corresponding transmission lines and terminating the lines as recited in the above quoted portions of independent claims 67,87-88 and 92.

Claims 67, 87-88, and 92 are believed to be allowable over the prior art of record. Depending claims 68-82, 86, 89, and 93-98 are believed to be allowable for at least the same reasons as the independent claims.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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